N THE CLAIMS:

Please AMEND the claims in accordance with the following:

1. (Currently Amended) A separating apparatus for time division multiplexed signal light, which is input with time division multiplexed signal light obtained by multiplexing a plurality of signal lights on a time axis, and guides said time division multiplexed signal light, respectively, to a first optical gate section in which the transmittance thereof is periodically changed in accordance with a repetition frequency of "n" times a bit rate of a signal light of said plurality of signal lights (n is a positive integer ~~excluding 1~~ greater than 2), and to a second optical gate section connected in series to said first optical gate section, in which the transmittance thereof is periodically changed in accordance with a repetition frequency equal to the bit rate of said signal light of the plurality of signal lights, to separate at least one signal light included in said time division multiplexed signal light on the time axis,

wherein said first optical gate section comprises; a first optical gate in which an optical transmission characteristic thereof with respect to a drive voltage is periodically changed, and a first drive circuit that supplies to said first optical gate a drive signal having a repetition frequency equal to the bit rate of said signal light of the plurality of signal lights, and having the voltage magnitude corresponding to a voltage difference in an n/2 period in the periodic optical transmission characteristic of said first optical gate.

2. (Previously Presented) A separating apparatus according to claim 1,

wherein said first optical gate is a Mach-Zehnder optical modulator.

3. (Original) A separating apparatus according to claim 2,

wherein said Mach-Zehnder optical modulator is constructed using a substrate made of lithium niobate.

4. (Original) A separating apparatus according to claim 3, further comprising;

a polarization control section that controls a polarization state of the time division multiplexed signal light input to said Mach-Zehnder optical modulator, to be constant.

5. (Original) A separating apparatus according to claim 2,

wherein said Mach-Zehnder optical modulator is constructed using a material which enables a polarization independent operation.

6. (Original) A separating apparatus according to claim 5,

wherein said Mach-Zehnder optical modulator is constructed using a substrate made of indium phosphorus.

7. (Previously Presented) A separating apparatus according to claim 1,

wherein said first drive circuit generates a drive signal to be supplied to said first optical gate, by adjusting a phase and voltage magnitude of an electric clock having a repetition frequency equal to the bit rate of said signal light of the plurality of signal lights extracted based on the signal light of the plurality of signal lights having passed through said first and second optical gate sections.

8. (Previously Presented) A separating apparatus according to claim 1,

wherein said second optical gate section comprises a second optical gate in which an optical transmission characteristic thereof with respect to a drive voltage is periodically changed, and a second drive circuit that supplies to said second optical gate a drive signal having a repetition frequency equal to the bit rate of said signal light of the plurality of signal lights.

9. (Previously Presented) A separating apparatus according to claim 8,

wherein said second optical gate is an electro-absorption type optical gate.

10. (Previously Presented) A separating apparatus according to claim 8,

wherein said second optical gate is a Mach-Zehnder optical modulator, and

said second drive circuit supplies to said second optical gate a drive signal having the voltage magnitude corresponding to a voltage difference of a 1/2 period in the periodic optical transmission characteristic of said second optical gate.

11. (Previously Presented) A separating apparatus according to claim 8,

wherein said second drive circuit generates a drive signal to be supplied to said second optical gate, by adjusting a phase and voltage magnitude of an electric clock having a repetition frequency equal to the bit rate of said signal light of the plurality of signal lights extracted based on the signal light of the plurality of signal lights having passed through said first and second optical gate sections.

12. (Previously Presented) An optical receiving apparatus, which is input with time division multiplexed signal light obtained by multiplexing a plurality of signal lights on a time axis, and comprises: a clock extracting unit extracting a clock having a repetition frequency equal to a bit rate of said signal light of the plurality of signal lights, based on said time division multiplexed signal light; and a signal light receiving unit separating said respective signal light included in said time division multiplexed signal light on the time axis to perform reception processing,

wherein at least one of said clock extracting unit and said signal light receiving unit includes the separating apparatus for time division multiplexed signal light according to the present invention recited in claim 1.

13. (Original) An optical receiving apparatus according to claim 12,

wherein said clock extracting unit and said signal light receiving unit are respectively provided for each of said plurality of signal lights included in said time division multiplexed signal light.

14. (Previously Presented) An optical receiving apparatus according to claim12,

wherein said clock extracting unit is shared with two or more signal lights included in said time division multiplexed signal light.

15. (Original) An optical transmission system,

wherein time division multiplexed signal light obtained by multiplexing a plurality of signal lights on a time axis is transmitted from an optical transmission apparatus to an optical transmission line, and said time division multiplexed signal light transmitted via said optical transmission line is received by the optical receiving apparatus recited in claim 12.

16. (Previously Presented) An optical transmission system which transmits time division multiplexed signal light obtained by multiplexing a plurality of signal lights on a time axis from an optical transmission apparatus to an optical transmission line, and repeatedly transmits said time division multiplexed signal light to an optical receiving apparatus via a plurality of optical repeaters arranged on said optical transmission line,

wherein said optical transmission system comprises an optical regenerator executing optical regeneration processing of said time division multiplexed signal light being propagated through said optical transmission line, using an optical clock synchronous with a signal light of the plurality of signal lights included in said time division multiplexed signal light, and said optical

clock supplied to said optical regenerator is generated based on the clock extracted from the time division multiplexed signal light by the separating apparatus recited in claim 1.

17. (Previously Presented) A separating apparatus for a time division multiplexed signal light, which is input with a time division multiplexed signal light obtained by multiplexing a plurality of signal lights on a time axis, and guides said time division multiplexed signal light, respectively, to a first optical gate section in which the transmittance thereof is periodically changed in accordance with a repetition frequency of "n" times a bit rate of a signal light of the plurality of signal lights (n is a positive integer greater than 2), and to a second optical gate section connected in series to said first optical gates section, in which the transmittance thereof is periodically changed in accordance with a repetition frequency equal to the bit rate of said signal light of the plurality of signal lights, to separate at least one signal light included in said time division multiplexed signal light on the time axis,

wherein said first optical gate section comprises:

a first optical gate in which an optical transmission characteristic thereof with respect to a drive voltage is periodically changed, and a first drive circuit that supplies to said first optical gate a drive signal having a repetition frequency equal to the bit rate of said signal light of the plurality of signal lights, and having the voltage magnitude corresponding to a voltage difference in an n/2 period in the periodic optical transmission characteristic of said first optical gate.